

The Role of Animal Agriculture in a Sustainable 21st Century Global Food System

The Washington Club - 15 Dupont Circle, Washington, DC

SPEAKERS

MARIO HERRERO Leader, Sustainable Livestock Futures
International Livestock Research Institute (ILRI)

SCOTT HURD Associate professor; Senior epidemiologist in the Veterinary Diagnostic
Production Animal Medicine Department
Iowa State University

Dr. Hurd has expertise in the epidemiology and ecology of foodborne pathogens in livestock. His emphases include antimicrobial resistance, bioterrorism, emerging infectious diseases, and food safety, among many. He is a member of the Council of Canadian Academies Expert Panel on Risk Assessment, and a member of the American Veterinary Medical Association's Council on Biologic and Therapeutic Agents. Dr. Hurd is a 1982 graduate of Iowa State University's College of Veterinary Medicine.

JOY MENCH Professor, Department of Animal Science
Director of the Center for Animal Welfare
University of California, Davis

Dr. Mench is widely known and respected for her expertise in animal behavior and animal welfare. She has frequently participated in public forums related to these issues. Research in her laboratory focuses on the assessment and improvement of animal welfare. She is particularly interested in developing environmental enrichment strategies for small laboratory animals (rodents, rabbits) and captive/domesticated birds. In addition, she conducts behavioral research on poultry (chickens, quail, ducks) directed toward improving aspects of their housing, handling, and management. She received her B.S. in Biology from San Francisco State University and her PhD in Ethology and Neurobiology from the University of Sussex in England. Dr. Mench has served on numerous committees and boards related to farm and laboratory animal welfare, including the animal welfare advisory committees of Maple Leaf Farms, the United Egg Producers, McDonald's, Safeway, the Food Marketing Institute and the National Council of Chain Restaurants, as well as National Research Council committees on animal biotechnology and the use of mammals in neuroscience and behavioral research. In addition, she is involved with the Livestock Welfare Working Group of the World Animal Health Organization (OIE); the U.N. Food and Agricultural Organization expert committee on capacity building to implement good animal welfare practices; and the Council on Accreditation of the Association for the Assessment and Accreditation of Laboratory Animal Care. Dr. Mench chaired the revision of the first revised edition of the Federation of Animal Science Societies' Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching, and has served as a section editor for the Journal of Applied Animal Welfare Science and Animal Welfare. She was president of the International Society for Applied Ethology from 1998-2000, was previously a member of American Humane Certified's Scientific Advisory Board, and is currently a scientific advisor to the European Union's Welfare Quality Assurance project and a member of the Broiler Welfare Guidelines Working Group for the OIE. Dr. Mench is the recipient of the Humane Society of the United States' Animals and Society Teaching Award (2001), the Poultry Science Association's Poultry Welfare Research Award (2004), and the University of California, Davis Distinguished Scholarly Public Service Award (2007).

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FRANK MITLOEHNER Associate Professor and Air Quality Extension Specialist
University of California, Davis

Frank Mitloehner is an internationally renowned authority for agricultural air quality, animal-environmental interactions, and environmental engineering. Since he joined the faculty in the Department of Animal Science at the University of California, Davis in 2002, Dr. Mitloehner has generated and published data that are rapidly changing how livestock facilities in California and throughout the US are regulated. His work includes the development and evaluation of cost-effective methods to mitigate harmful emissions. As principal investigator (PI) of a \$1.7 million grant from NIH National Institute for Occupational Health and Safety, he is broadening his research to include the impact of air emissions from livestock operations on human health. Dr. Mitloehner's data has defined new livestock operation regulatory policies of the Environmental Protection Agency and the California Air Resources Board. He is PI of nine active and 12 completed grants totaling more than \$4 million for a broad range of studies, including the California PI on the National Air Emission Monitoring Study (NAEMS), under the auspices of the U.S. Environmental Protection Agency (EPA). The NAEMS will accurately assess emissions from livestock operations and compile a database for estimation of emission rates, and promote a national consensus for emissions-estimation methods from livestock operations.

HENNING STEINFELD Chief, Livestock Information, Sector Analysis and Policy Branch,
Coordinator - Livestock, Environment and Development Initiative
Food and Agriculture Organization of the United Nations (FAO)

Dr. Steinfeld has been working on agricultural and livestock policy for almost 20 years, in particular focusing on environmental issues, poverty and public health protection. Prior to that, he has worked in agricultural development projects in different African countries.

He is co-author of *Livestock in a Changing Landscape, Volumes 1 and 2*, which present sustainable approaches to the challenges created by fundamental shifts in livestock management and production.

The Livestock, Environment and Development Initiative (LEAD) is a multi-donor project based at FAO headquarters in Rome. Launched in 2000, the Initiative's purpose is to devise and promote ecologically sustainable livestock production strategies and practices while at the same time being concerned with reducing poverty. *Livestock's Long Shadow – Environmental Issues and Options* (2006) is an updated global review of the impact of livestock production on the environment.

Dr Steinfeld is an agricultural economist and graduated from the Technical University of Berlin, Germany (now Humboldt University).

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PAUL THOMPSON
Michigan State University

WK Kellogg Chair in Ethics

Paul Thompson came to Michigan State in 2003 to assume a position in the Philosophy Department, with partial appointments in the Agricultural Economics and Resource Development Departments. Previously he held positions as Distinguished Professor of Philosophy and Director, Center for Food Animal Productivity and Well-Being, at Purdue University, and prior to that position as Professor of Philosophy and Agricultural Economics and Director, Center for Science and Technology Policy and Ethics, at Texas A&M University. This research focus has led him to undertake a series of projects on the application of recombinant DNA techniques to agricultural crops and food animals. He serves on the United States National Research Council's Agricultural Biotechnology Advisory Council and on the Science and Industry Advisory Committee for Genome Canada. Thompson's new work focuses on nanotechnology in the agrifood system. He received his B.A. at Emory University and completed his Ph.D. studies on the philosophy of technology at the State University of New York at Stony Brook.

MAURITS VAN DEN BERG Senior Policy Researcher
The Netherlands Environmental Assessment Agency

Maurits van den Berg (1960) is Senior Policy Researcher Agriculture at PBL – The Netherlands Environmental Assessment Agency. His research focus is on the development and application of novel approaches to assess agronomic, economic and/or environmental performance characteristics of (agricultural) land use systems at scales ranging from sub-field level to global level. He earned an M.Sc. degree in Agricultural Sciences from Wageningen University (1986) and a PhD from Utrecht University (2000). His professional career so far encompassed numerous research and university lecturing positions in as many institutes in Brazil (IAC), Mozambique (JEM), South Africa (SASRI) and The Netherlands (ISRIC, WUR, PBL).

GARY W. WILLIAMS Professor, Regents Fellow, and Texas AgriLife Research Faculty Fellow;
Research Leader, Animal Reproduction Laboratory - AgriLife Research
Center, Beeville

Texas A&M University

Dr. Williams' basic research interests currently focus on how nutritional status is communicated to the brain in the bovine female during pubertal development and the postpartum period, and on neuroendocrine mechanisms regulating seasonal reproduction in the mare. Applied research efforts and public outreach involve management systems for fixed-time appointment breeding in Bos indicus-influenced cattle and reproductive management of the beef cow and mare. Williams has served on the editorial board of three journals and two terms as Associate Editor of the Animal Growth, Physiology and Reproduction section of the Journal of Animal Science. He has received the Monsanto Animal Physiology and Endocrinology Award from the American Society of Animal Science (2004), and Vice Chancellor Awards in Excellence for Team (1990) and Individual (1993) research from the Texas A&M University System.

He received B.S. and M.S. degrees in Animal Science from New Mexico State University in 1972 and 1975, respectively, and the Ph.D. in Animal Physiology from the University of Arizona in 1978. He is a Diplomate of the American College of Animal Physiology.

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STEERING COMMITTEE

PATRICK BROWN Professor in the Department of Biochemistry (Stanford)
Investigator (Howard Hughes Medical Institute)
**Stanford University School; Howard Hughes Medical Center;
National Academy of Engineering; National Institute of Medicine**

Dr. Brown pioneered the use of gene expression patterns to classify cancers and improve prediction of their clinical course. He has also played a leading role in making scientific and medical research literature freely available to scientists, physicians and the public around the world: with Harold Varmus and David Lipman, he developed the proposal that led to PubMed Central. With Varmus and Michael Eisen, he founded the Public Library of Science, an innovative non-profit, open-access publisher of leading journals in biology and medicine, which make every article they publish immediately and freely available to the world. Dr. Brown developed the first biochemical system for studying how retroviruses like HIV integrate their own genes into the cells they infect and defined the fundamental features of this process during his post-doc at the University of California (with Mike Bishop and Harold Varmus). At Stanford, Brown and colleagues developed the first practical methods for making and using DNA microarrays – which allow the activity of all the genes in a genome to be quantitatively measured - and developed widely used methods for analyzing, visualizing and interpreting global gene expression programs. By making his data and methods freely available he helped catalyze the development and application of genomic approaches to diverse medical and basic biological questions and diverse organisms. He is a member of the US National Academy of Sciences and Institute of Medicine. Honors include the American Cancer Society's medal of honor for research, the Curt Stern Award of the American Society for Human Genetics, the Takeda Foundation Award and the National Academy of Sciences award for molecular biology. His BA (chemistry) is from the University of Chicago, and he received his MD and a PhD (biochemistry) for studies of DNA topoisomerases, also from the University of Chicago. He completed a residency in pediatrics at Children's Memorial Hospital (Chicago).

DANIEL M. DOOLEY Vice President for Agriculture and Natural Resources (ANR)
University of California

As system-wide vice president for the University's ANR division, Dr. Dooley leads a statewide research and public service organization responsible for activities in agriculture, natural resources, environmental sciences, family and consumer sciences, forestry, human and community development, 4-H/youth development and related areas. He is retired from the Visalia-based law firm of Dooley, Herr and Peltzer, LLP, which represents many agricultural and water interests throughout the San Joaquin Valley. He has distinguished himself by successfully bridging environmental and economic considerations in a number of controversial legal issues, including the recent settlement of protracted litigation regarding the restoration of the San Joaquin River, the reintroduction of salmon and the maintenance of agricultural practices supported by water from the river. Mr. Dooley is formerly a partner of Dooley Farms, a diversified farming operation specializing in the production of cotton, alfalfa, forage crops and walnuts. He has a B.S. in agricultural economics from the University of California at Davis, and a J.D. from the University of Pacific, McGeorge School of Law.

He is also a graduate of the California Agricultural Leadership Program. He is currently a member of the Executive Committee of the National Council for Agricultural Research, Extension and Teaching; a member of the Farm Foundation's Bennett Agricultural Roundtable; and a

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member and past Chair of the Farm Foundation Board of Trustees. He previously served as Chair of the President's Advisory Commission on Agriculture and Natural Resources of the University of California; and is immediate past Chair of the Board of Trustees of Children's Hospital Central California. In other past service, he was the Chief Deputy Director of the California Department of Food and Agriculture, the Chairman of the California Water Commission, and a member and Vice Chair of USDA's National Agricultural Research, Extension, Education and Economics (NAREE) Advisory Board.

ROBERT GOODLAND Ecologist and environmental scientist with specialization in social and environmental assessment, and sustainable development
World Bank Group (retired)

Dr Robert Goodland retired as Lead Environmental Adviser at the World Bank Group after serving there for 23 years. He wrote most of the World Bank's Social and Environmental Safeguard policies during his service. Last year he was awarded the World Conservation Union's Coolidge medal for outstanding leadership in environmental conservation.

LOU GROSS Director, National Institute for Mathematical and Biological Synthesis (NIMBios)
Director of the Institute for Environmental Modeling
Professor of Ecology and Evolutionary Biology and Mathematics
University of Tennessee at Knoxville,

Dr. Gross's research focuses on computational and mathematical ecology, with applications to plant physiological ecology, conservation biology, natural resource management, and landscape ecology. As Director of the Institute for Environmental Modeling, he leads researchers working on an array of environmental problems from the biotic impacts of Everglades restoration planning, to invasive species control, infectious disease management, and risk assessment of environmental contaminants.

Dr. Gross has co-edited four books, including *Individual-Based Models and Approaches* in Ecology, which motivated the tremendous expansion of these models in ecology over the past decade. He has led numerous research projects, and is a leader in the development the ATLSS (Across Trophic Level System Simulation) project, one of the largest ecological modeling projects ever constructed, which has provided a critical tool in the ongoing complex restoration planning for the Everglades. The National Science Foundation has funded his research in parallel and grid computing for ecological models, ecological multimodeling and spatial control of natural systems. He was the recipient of the 2006 Distinguished Scientist Award from the AIBS. He was co-director for twenty years of a series of courses and workshops on mathematical aspects of ecology and environmental science at the International Centre for Theoretical Physics in Italy. These involved participants from over sixty countries, with an objective of building the scholarly infrastructure in the Third World to address environmental problems using their own talent. He received his B.S. in Mathematics from Drexel University in 1974 and his Ph.D. in Applied Mathematics, with a minor in Ecology and Systematics, from Cornell University in 1979

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KIRK C. KLASING Professor of Avian Nutrition in the Department of Animal Science
University of California, Davis

Dr. Klasing's research interests include the interactions between nutrition and the immune system of animals, for which he has received the Poultry Science Research Award from the Poultry Science Association, the BioServ Award from the American Institute of Nutrition, and the Lilly Animal Scientist Award. He holds a B.S. degree from Purdue University and a Ph.D. from Cornell University. Dr. Klasing serves on the editorial boards of Poultry Science, Animal Biotechnology, and Journal of Nutrition. Other areas of interest include immunophysiology and disease resistance, the immunologic basis of stress, and nutrition and metabolic adaptation required by carnivorous, granivorous, and nectivorous animals. He was a member of the NRC Subcommittee on Metabolism Modifiers and Nutrient Requirements in Food Producing Animals. He also served as the chair of the NRC Committee on Minerals and Toxic Substances in Diets and Water for Animals, which completed its report in 2005.

MARK ROSEGRANT Director of the Environment and Production Technology Division
International Food Policy Research Institute (IFPRI), Washington, DC

Dr. Rosegrant has 30 years of experience in research and policy analysis in agriculture and economic development, with an emphasis on water resources and other critical natural resource and agricultural policy issues as they impact food security, rural livelihoods, and environmental sustainability. Dr. Rosegrant developed IFPRI's International Model for Policy Analysis of Agricultural Commodities and Trade ([IMPACT](#)), which has become a standard for projections and scenarios for global and regional food demand, supply, trade, and prices; and IMPACT-WATER, which integrates a detailed water supply and demand model with the food model. He currently directs research on climate change, water resources, sustainable land management, genetic resources and biotechnology, and agriculture and energy. His Ph.D. is in Public Policy from the University of Michigan

NORMAN R. SCOTT Professor in the Department of Biological and Environmental
Engineering
Cornell University
National Academy of Engineering

Dr. Scott was elected to the National Academy of Engineering in 1990 for his work on biothermal engineering in animals, including thermoregulation in poultry, biomechanics of machine milking of dairy cows, and electronic applications in agriculture. More recently, his research has focused on sustainable communities, which he characterizes as being based on biologically-derived fuels, renewable energy, recycling, energy conservation, reduced transportation, managed ecosystems, advanced housing systems, and sustainable agriculture.

Dr. Scott is a member of numerous engineering societies and is a past President of the American Society of Agricultural and Biological Engineers. He currently serves as Chair of the Board on Agriculture and Natural Resources. He earned a B.S. degree in agricultural engineering from Washington State University in 1958 and a Ph.D. from Cornell University in 1962.

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MERCEDES VÁZQUEZ-AÑÓN Novus International

Director of animal nutrition research

Dr. Vázquez-Añón joined Novus International, a leading developer of animal health and nutrition programs for the food animal industry, in 1996 as research manager where she developed the application of several Novus products in dairy, beef, poultry, companion animals and aquaculture. In 2006, Dr. Vázquez-Añón became Fellow Scientist and in 2007, became the director of animal nutrition research across species. Her research expertise encompasses amino acid, trace mineral, antioxidant and lipid nutrition, and metabolism in ruminants and monogastrics. She received a BS in Agriculture Engineering and Animal Science from Universidad Politécnica de Madrid, Spain in 1989, an MS in Dairy Science from Penn State University in 1992, and a PhD in Dairy and Nutritional Science from University of Wisconsin-Madison in 1996. She is bilingual in English and Spanish.

WALTER WILLETT Fredrick John Stare Professor of Epidemiology and Nutrition; Chair, Department of Nutrition **Harvard School of Public Health Institute of Medicine**

Dr. Willett's current research primarily involves the investigation of dietary factors, using epidemiologic approaches, in the cause and prevention of cardiovascular disease, cancer, and other important conditions. Fundamental to this work has been the development of methods to measure dietary intake in large populations. In addition, the department continues to work on the development and evaluation of biological markers of dietary intake, particularly using plasma and toenail samples. In addition to investigations regarding nutritional factors, his laboratory is evaluating relationships between the use of exogenous hormones in the form of oral contraceptives and post-menopausal estrogens to risks of breast cancer and other diseases. Also, other lifestyle factors, such as physical activity, are being examined in relation to occurrence of important diseases. Walter received his M.D. from the University of Michigan medical school, and his PhD in epidemiology from Harvard School of Public Health. Walter was elected a member of Institute of Medicine in 1998.

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ATTENDEES

JEFF ANHANG

PEGGY F. BARLETT Goodrich C. White Professor of Anthropology
Emory University

Peggy is the author of an award-winning study of the U.S. farm crisis of the 1980s, *American Dreams, Rural Realities: Family Farms in Crisis* (1993). Her previous research on Costa Rican farmers emphasized farmer decision-making in the face of rapid ecological and economic change. Dr. Barlett has been a leader in bringing Emory to its current commitment to sustainability. She currently chairs Emory's Sustainable Food Initiative, which has set bold goals for local and sustainably-grown food on campus and supports seven educational food gardens and a farmers market. She is also editor of *Urban Place: Reconnecting with the Natural World* (2005), which highlights research on mental and physical health impacts of nature contact and the reawakening engagement with place around the country. Dr. Barlett received a PhD in Anthropology from Columbia University in 1975.

ALAN M GOLDBERG Professor of Toxicology
Chairman of the Board, Center for Alternatives to Animal Testing
Bloomberg School of Public Health, Johns Hopkins University

Dr. Goldberg is a leading authority on the creation, development, and validation of alternative toxicological methods and has served on numerous committees for national and international organizations charged with protecting public health. After postdoctoral work in microchemistry and a faculty appointment at Indiana University, he moved to the Johns Hopkins University in 1969, where he became Professor in 1978, and was an associate dean (research and technology transfer) from 1984-1999. As a professor of toxicology, his area of focus was the nervous system, with his major contributions in fundamental aspects of cholinergic biology and radio-enzymatic assay for the measurement of the neurotransmitter acetylcholine. In the late 1970s, Dr. Goldberg's work began to focus on in vitro systems. In 1981, he founded the Johns Hopkins Center for Alternatives to Animal Testing.

As a Dean at the Johns Hopkins Bloomberg School of Public Health, Dr. Goldberg was responsible for technology transfer, conflict of interest, and working with the private sector.

He is the recipient of many awards, including the inaugural Russell and Burch Award in 1991 from the Humane Society of the United States, the Society of Toxicology's Ambassador of Toxicology Award in 1998, the Society of Toxicology's 2001 Enhancement of Animal Welfare Award, and the 2001 Doerenkamp-Zbinden Foundation Award. He is the author of more than 150 scientific articles and editor of numerous books. During the last several years, Dr. Goldberg was a member of the Pew Commission on the Impact of Industrial (US) Farm Animal Production (www.pcifap.org), which looked at issues of public health, environment, animal welfare and social justice.

Dr. Goldberg actively serves on the International Animal Welfare Advisory Boards of Shell, and Procter & Gamble (IAMS), and consults with CeeTox (an in vitro toxicology CRO) and chairs their Scientific Advisory Board, and is Chairman of the Management Board of Orange House Partnership (www.orangeohouse.eu), an NGO dealing with food-nutrition, safety and production.

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Dr. Goldberg received his bachelor's degree at the Long Island University-Arnold and Marie Schwartz College of Pharmacy in 1961 and his PhD from the University of Minnesota, Department of Pharmacology in 1966.

GARY F. HARTNELL Senior Fellow
Monsanto Company

Dr. Hartnell is an expert on the nutritional requirements of food animals. As an animal nutritionist for Monsanto, he is responsible for developing strategies and conducting poultry, livestock and aquaculture studies in the evaluation of genetically modified crops and their co-products for regulatory, industry, and consumer acceptance. Dr. Hartnell has been active in every society of importance in the animal nutrition community, including the American Society of Animal Science, American Dairy Science Association (Past President), Poultry Science Association, World Aquaculture Society, American Registry of Professional Animal Scientists, Dairy Shrine, the Academy of Science of St. Louis, and Sigma Xi. He is currently the Past President of the Federation of Animal Science Societies. He recently co-chaired an International Life Science Institute committee that developed guidelines for conducting livestock feeding studies using biotechnology derived crops and their byproducts and he serves on the animal feed committee of the Agricultural Biotechnology Stewardship Technical Committee. He has authored or co-authored over 101 abstracts, 69 scientific journal articles, 9 book/book chapters, and 117 popular press, symposia, and conference articles. Dr. Hartnell received his PhD from the University of Wisconsin in 1977.

RICHARD HEGG National Program Leader, Division of Agricultural Systems Unit
U.S. Department of Agriculture (USDA) National Institute of Food and Agriculture

Richard manages animal manures from confined animal feeding operations to prevent air, soil, water pollution, including alternative treatment technologies and production systems, value-added products, feed management, odor control, economics, and rural community issues. Richard also works on alternative energy sources from agriculture including anaerobic digestion and feedstock logistics for cellulosic biomass.

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GENE HUGOSON Commissioner
Minnesota Department of Agriculture

Mr. Hugoson has been commissioner since 1995 and has worked to strengthen Minnesota's value-added industries and international trade opportunities. He is also the chair of the Environmental Quality Board, which administers the state's environmental review, water planning, and sustainable development programs. In 2007, Hugoson became chair of the Next Gen Energy Board, which was established by the Governor Pawlenty and the Minnesota Legislature to develop recommendations on how the state can invest its resources to achieve energy independence, agricultural and natural resources sustainability, and rural economic vitality. Before joining the Department of Agriculture, Mr. Hugoson served five terms in the Minnesota House of Representatives, having been first elected in 1986. From 2003–2004, he served as president of the National Association of State Departments of Agriculture (NASDA), an organization of state representatives which works with the federal government to develop and implement agricultural policy. Hugoson holds a degree in social science education from Augsburg College in Minneapolis. After graduating he served in the U.S. Army, including a tour of duty in Vietnam. He has also done graduate work at Minnesota State University, Mankato. Mr. Hugoson and his family operate a corn and soybean farm in Martin County, Minnesota.

PHILLIP E. NELSON Professor in the Department of Food Science
William Scholle Endowed Chair in Food Processing
Purdue University

Dr. Nelson's research and achievements in aseptic processing technology have benefited developing countries by providing an inexpensive packaging and shipping system for importing and exporting food stuffs. In honor of his work, he was awarded the World Food Prize in 2007. Commonly credited for recognizing the untapped potential of aseptic technologies for much larger scale applications, the aseptic bulk processing and packaging technology pioneered by Nelson can be found in almost every country in the world. Dr. Nelson was President of the Institute of Food Technologies from 2001–2002 and served on the National Agricultural Research, Extension, Education and Economic (NAREE) Advisory Board from 2003–2005. In addition to the World Food Prize, he is the Recipient of numerous honors, including the Carl R. Fellers Award, which he received in 2005 from the Institute of Food Technologists for service to the field of food science and technology, and bringing honor and recognition to the profession. Dr. Nelson received his BS and PhD degrees from Purdue University.

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FRED OWENS Senior Research Scientist, Ruminant Nutrition
Pioneer Hi-Bred International

Fred grew up on a small beef-dairy-swine farm in Wisconsin, attended a local college (River Falls, Wisconsin) and completed his undergraduate and graduate work at the University of Minnesota in 1968. After 6 years in the Animal Science Department at the University of Illinois, Fred joined the faculty at Oklahoma State University conducting research on rumen function, metabolic disorders, feed intake, feed additives, and growth and development. During his 24 years at Oklahoma State, he was Editor-in-Chief for the Journal of Animal Science and President of the American Society of Animal Science. He was awarded the Morrison Award from that society in 1996. In 1998, he retired early from Oklahoma State to start a new career with Pioneer Hi-Bred. As Senior Ruminant Research Nutritionist at Pioneer Hi-Bred International, he is involved with developing, testing, and evaluating cereal crops, oilseeds, and forage additives that have been or can be altered to improve nutrient availability and quality of milk and meat produced by ruminants.

YVES POTVIN Founder and President
Garden Protein International

For over 25 years, Yves Potvin has been a pioneer in the food industry dedicated to the health and well-being of people who love to eat, and want to eat well. What began in 1985 as a one-man operation, grew to become the largest refrigerated, meat-alternative producer in North America and redefined the convenient health-food category. Yves has received numerous accolades including being recognized as one of Canada's top 40 entrepreneurs under the age of 40, and named Pacific Canada's Entrepreneur of the Year. In 2003, recognizing the growing global demand for quality protein in the meat-alternative sector, Yves founded Garden Protein International. GPI now has over 200 employees, and 'gardein' (garden + protein) is available across the US and Canada. 'Gardein' has been featured on both the Oprah Winfrey Show and the Ellen deGeneres Show and was just voted Product of the Year by VegNews readers. Yves continues to be committed to making a difference and creating great tasting food that's good for people and for the planet.

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PEDRO A. SANCHEZ Director of Tropical Agriculture, and Senior Research Scholar
Earth Institute of Columbia University

Pedro serves as Co-Chair of the Hunger Task Force of the Millennium Project, an advisory body to the United Nations. Sanchez served as Director General of the World Agroforestry Center (ICRAF) headquartered in Nairobi, Kenya from 1991-2001. He is also Professor Emeritus of Soil Science and Forestry at North Carolina State University, and was a visiting professor at the University of California, Berkeley. He was named a MacArthur Foundation Fellow in 2003, and received the World Food Prize in 2002. His professional career has been dedicated to improving the management of tropical soils through integrated natural resource management approaches to achieve food security and reduce rural poverty while protecting and enhancing the environment. Sanchez is author of *Properties and Management of Soils of the Tropics* (rated among the top 10 bestselling books in soil science worldwide), and author of over 200 scientific publications. He is a Fellow of the American Society of Agronomy and the Soil Science Society of America. He has received decorations from the governments of Colombia and Peru and was awarded the International Soil Science Award and the International Service in Agronomy Award. In 2001, the Catholic University of Leuven, Belgium awarded him a Doctor Honoris Causa degree for his work on tropical soils in Africa and he was appointed as Elder by the Luo community of Western Kenya, in recognition for his assistance in eliminating hunger from many villages in the region. A native of Cuba, he received his Ph.D. degree from Cornell University.

ROGER A. SEDJO Senior Fellow
Director of the Forest Economics and Policy Program
Resources for the Future

Dr. Sedjo's research focuses on a variety of natural resource and forest issues including both the commercial timber industry and environmental issues. Dr. Sedjo has done substantial work on climate change and was one of the recipients of the Nobel Peace Prize Award given to members who prepared the Climate Change 2007 report of the IPCC. Other areas of research include timber supply, biodiversity, deforestation and biofuels. He has authored hundreds of journal articles and book chapters. His fifteenth and most recent book, *Perspectives on Sustainable Resources in America*, was published this past summer. Sedjo also served on the Forest Service's 2nd Committee of Scientists, which assessed Forest Service goals and performance. He is currently a member of the Board of the Sustainable Forestry Initiative Inc., a non-profit involved in certifying forestry practices in North America. Sedjo received his BS and MS from the University of Illinois and his PhD in economics from the University of Washington.

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KATHLEEN SEGERSON **University of Connecticut**

Philip E. Austin Professor of Economics

Dr. Segerson specializes in natural resource economics, and in particular, the economics of environmental regulation. She is currently a member of both the Chartered Executive Board of the Environmental Protection Agency's Science Advisory Board, and the Vice Chair of the Advisory Board's Committee on Valuing the Protection of Ecological Services and Systems. She was a member of the U.S. General Accounting Office's Expert Panel on Climate Change Economics from 2007–2008 and frequently serves on external review committees for the U.S. Department of Agriculture. She has also served on three National Research Council study committees: the Committee on Assessing and Valuing the Services of Aquatic and Related Terrestrial Ecosystems (2002–2004), the Committee on the Causes and Management of Coastal Eutrophication (1998–2000), and the Committee on Improving Principles and Guidelines for Waste Resources Planning by the U.S. Army Corps of Engineers (2008– present). In 2008, she was named a Fellow by both the American Agricultural Economics Association and the Association of Environmental and Resource Economists. Dr. Segerson earned a PhD from Cornell University in 1984.

JORDI SERRATOSA **European Food Safety Authority**

Liaison Officer to U.S. Food and Drug Administration

Dr. Serratosota has been stationed in Washington, DC since September 2009 with the goal of increasing collaboration between the European Union and the United States on scientific risk assessment in the area of food safety. Jordi has been the Head of the Animal Health and Welfare Unit with the European Food Safety Authority since 2003. Before that, at the European Commission in Brussels, Jordi served DG SANCO for legislation on veterinary aspects of Public Health for animal products such as hormones, BST, dioxins, and residue plans applicable to EU member states and other countries exporting products to EU, and 4 Community Reference Laboratories. Jordi worked in the private sector for 10 years as Technical Director of Rhone Merieux and International Business Director for feed additives in Co Lucta. He holds a PhD from Hannover University (Germany) focused on in probiotics used as feed additives, a BS degree on Hygiene, Science and Food Technology from Universidad Complutense of Madrid (Spain), and an MBA at EADA in Barcelona. In 1986 Jordi was made Associate Professor in Veterinary and Food Legislation at the Autonomous University of Barcelona.

EMMY SIMMONS **Former Assistant Administrator USAID**

Consultant on international development issues

Emmy Simmons is currently an independent, with a focus on food, agriculture, and Africa. She serves on the boards of the Partnership to Cut Hunger and Poverty in Africa, the International Livestock Research Institute (ILRI), the International Institute for Tropical Agriculture (IITA), and the Society for International Development, as well as several advisory committees focused on agricultural development in Africa and Asia. Emmy participates in activities of the Roundtable on Science and Technology for Sustainability at the National Academies of Science.

She worked with USAID for nearly 30 years, and served as the assistant administrator for Economic Growth, Agriculture, and Trade from 2002-05. She also worked in the Ministry of Planning and Economic Affairs in Liberia and taught and conducted research at Ahmadu Bello University in Nigeria. She began her international career as a Peace Corps volunteer in the Philippines. She holds an M.Sc. degree in agricultural economics from Cornell University and a B.A. degree from the University of Wisconsin-Milwaukee.

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STEVE SMITH National Program Leader, Animal Production Systems
U.S. Department of Agriculture (USDA) National Institute of Food and Agriculture

Dr. Smith provides leadership for a wide range of research, extension and education projects related to animal production; he is the primary contact in the area of livestock nutrition; serves as liaison to a number of industry groups, several multistate committees and other federal agencies in matters related to production animal agriculture. Dr. Smith came to NIFA after spending 25 years in industry, having worked in a variety of research, sales and marketing positions within Southern States Cooperative and Cargill, Incorporated.

ADELLE TURZILLO National Program Leader for Animal Production Systems
U.S. Department of Agriculture (USDA) National Institute of Food and Agriculture

Dr. Turzillo began her federal career in 2004 at the Food and Drug Administration Center for Veterinary Medicine and moved to USDA in 2008. Her areas of expertise include animal reproduction, food safety, and effects of climate change on livestock production. She holds a Ph.D. in Animal Physiology from Cornell University, completed postdoctoral study at Colorado State University, and was on the faculty at the University of Arizona.

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STAFF

PATRICIA KOSHEL Senior Program Officer, Policy and Global Affairs Division.
National Academy of Sciences

Ms. Koshel has been the staff lead for a consensus study on science and technology in U.S. Foreign Assistance Programs and has also worked on the Science and Technology for Sustainability Program. Before joining the National Academies, Ms. Koshel was the director of Bilateral Programs in the Office of International Affairs at the U.S. Environmental Protection Agency. Before that she was the Energy and Environmental Policy Advisor for the U.S. Agency for International Development. She has a master's degree in economic

AUSTIN LEWIS Senior Program Officer, Board on Agriculture and Natural Resources
National Academy of Sciences

Dr. Lewis is responsible for the oversight of the Animal Nutrition Series reports. Most of Austin's career has been spent in teaching and research at three institutions (Iowa State University, University of Alberta, and University of Nebraska). Austin has been active in the American Society of Animal Science, serving on several committees and spending a three-year term as Editor-in-Chief of the Journal of Animal Science. His previous involvement with the National Academies has consisted of serving on the Committee on Animal Nutrition and two of its subcommittees (Nutrient Requirements of Swine (twice) and Bioavailability of Nutrients) and a six-month assignment (2003–2004) as a visiting scholar in BANR. A native of the United Kingdom, he received B.S. and Ph.D. degrees from the Universities of Reading and Nottingham, respectively.

LINDA D. MEYERS Director, Food and Nutrition Board, Institute of Medicine,
National Academy of Sciences

Dr. Myers is responsible for a portfolio that includes nutrient requirements (Dietary Reference Intakes), obesity prevention, food safety, and international, military, and specific population nutrition. She directed the Food and Nutrition Board's international nutrition program from 1982-1986. From 1986-2001 she served in the Office of Disease Prevention and Health Promotion in the Department of Health and Human Services where she was a Senior Nutrition Advisor, Deputy Director, and Acting Director. While there, she oversaw preparation of a number of technical and policy reports, including Dietary Guidelines for Americans, the U.S. Action Plan on Food Security, and Healthy People 2010, national health objectives for the United States. Dr. Meyers has a B.A. in health and physical education from Goshen College in Indiana (1968), an M.S. in food and nutrition from Colorado State University (1974), and a Ph.D. in nutritional sciences from Cornell University (1978). Her research focused on population indicators of nutritional status. She has also worked in Botswana, Kenya and Viet Nam. Dr. Meyers has received a number of awards for her contributions to public health, including the Secretary's Distinguished Service Award for Healthy People 2010 and the Surgeon General's Medallion.

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MARIA ORIA Senior Program Officer, Food and Nutrition Board
National Academy of Sciences

Dr. Oria's main interests are in cross-cutting areas between food production and food safety/quality and the impact of food production systems in the environment. She received a B.S. in Biology from the University of Navarra (Spain), M.S. in Animal Science from the University of Wyoming (1990), and a Ph.D. in Food Science and Nutrition from Purdue University (1995). After a post-doc at Purdue University, Maria joined the Institute of Food Technologists coordinating a 5-year FDA grant on Food Safety and Human Nutrition. She joined the Institute of Medicine's Food and Nutrition Board as a Program Officer in February 2002 where she has directed various studies such as Scientific Criteria to Ensure Safe Food, and Infant Formula: Evaluating the Safety of New Ingredients. She had also directed the Food Forum from 2003 until 2007. Currently, from 2003 she directs the Standing Committee on Military Nutrition Research and its ad hoc committees. Maria is also the study director for food safety related studies at the Food and Nutrition Board. She recently coordinated the work of the Committee on Review of the Use of Process Control Indicators in FSIS Public Health Risk-Based Inspection System and is currently directing a study to review the role of FDA's in ensuring safe food. She has also been a lecturer at the Honors Program in the University of Maryland, teaching a course titled Food for Health: How Food Production Methods Have an Impact in our Lives.

ROBIN SCHOEN Director, Board on Agriculture and Natural Resources (BANR)
National Academies of Sciences

BANR's current portfolio of work includes studies on food safety, the veterinary workforce, animal nutrition, zoonotic diseases, crop biotechnology, sustainable agriculture, and citrus greening, a devastating new disease affecting the Florida citrus industry. In her 20 year career at the NRC she has been involved in a diversity of studies and activities, such as helping the State of Ohio build a biotechnology industry in the state to directing a Howard Hughes Medical Institute grant that sent US experts and their equipment to Mexico and South America to teach advanced molecular biology courses to young investigators. A native Washingtonian, Robin received a B.S. in biology and chemistry from Frostburg State College, Maryland, and an M.A. in Science and Technology Policy from George Washington University.

FRANCES E. SHARPLES Director, Board on Life Sciences
National Academy of Sciences

The Board on Life Sciences serves as the National Academies' focal point for a wide range of technical and policy topics in the life sciences, including bioterrorism, genomics, biodiversity conservation, and key topics in basic biomedical research, such as stem cells. Prior to coming to the National Academies, Dr. Sharples was a Senior Policy Analyst for the Environment Division of the White House Office of Science and Technology Policy and she also served in various positions in research and management at the Oak Ridge National Laboratory, in the Environmental Sciences Division. Dr. Sharples received her BA in Biology from Barnard College and her MA and PhD in Zoology from the University of California, Davis.